

Work Order ID 72966

Tuesday, August 23, 2011 8:10:34 AM



Page 1

Item ID: D2580-1

Accept



Setup Start



Revision ID:

Stop



Item Name: 205 Skidtube bent detail

Start Date: 8/23/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 8/29/2011 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: *11/08/24* Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2580

RevD DEO-D1

100

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Inspect mat'l D2500-I-190 for damage.

2-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

3-Open holes to 0.500" as per Dwg D2580 without cutting fluid

4-Deburr holes per QSI002 section 4.2.3 and blow out all chips from inside of tube

5- Chemical Conversion Coat as per QSI 005 4.1

6-Bond web in place per QSI 015.

A/R Sikaflex-291 batch: *1117516*

Sikaflex expire date: *12/01/13*

Start time and date: *10am* bond for 12hrs

Dh 11/08/24

x2

Dh 11/08/25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72966

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Page 2

Item ID: D2580-1

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Revision ID:

Stop



Item Name: 205 Skidtube bent detail

Start Date: 8/23/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 8/29/2011 Req'd Qty: 2.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____

Tooling: _____ Date: _____

QC: _____ Date: _____

SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

101

QC6- Inspect dimensions to drawing

0.00



QC

Memo

0.00

Quality Control

2 0 BE11/08/29

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

2 0 BE11/08/29

140

Identify as per dwg & Stock Location: LG

0.00



Packaging

Memo

0.00

Packaging

2 0 BE11/08/29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72966

Tuesday, August 23, 2011 8:10:34 AM

Page 3

Item ID: D2580-1

Accept

Revision ID:

Item Name: 205 Skidtube bent detail

Start Date: 8/23/2011 Start Qty: 2.00

Required Date: 8/29/2011 Req'd Qty: 2.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

Quality Control

11/8/29
11-0829

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, August 23, 2011 8:10:39 AM

Page 1

Work Order ID: 72966

Parent Item: D2580-1

Parent Item Name: 205 Skidtube bent detail



Start Date: 8/23/2011

Required Date: 8/29/2011

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP B001.11.08 Revised Step 9, 10, 12, and 13 SM:1 IPP Rev:C
10.12.01 as per DEO DI DD verfec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-190  Ext'n - 1" Beam Tube 4"		Manufactured	No			100	Each	37.0000	1	2			
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>LG</div> <div>37</div> <div></div> </div>													
<div> <div>66296</div> <div>37</div> <div></div> </div>													
D2596  Web, 205 Skidtube		Manufactured	No			100	Each	4.0000	1	2			
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>LG</div> <div>4</div> <div></div> </div>													
<div> <div>72575</div> <div>4</div> <div></div> </div>													
<div> <div>72958</div> <div></div> <div></div> </div>													

DL
11/08/11

DL
11/08/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 *[Signature]***DEO ATTACHED**
UNDER REVIEW*P1106570*
RMV *07.11.06.30*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

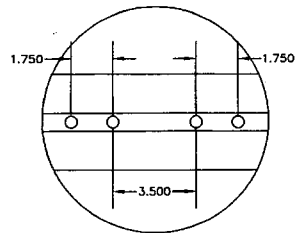
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *72966**11/08-23***GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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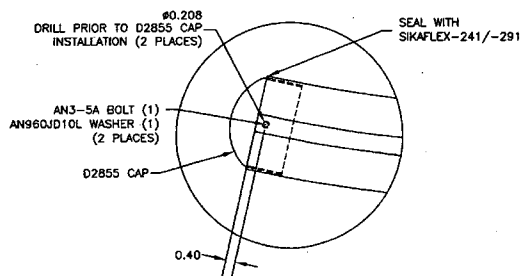
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07-06-28

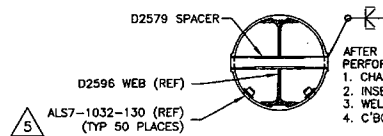
~~DEO ATTACHED~~

RMV 09.06.30



DETAIL C
SCALE 5:24

SECTION D-D
SCALE 5:24



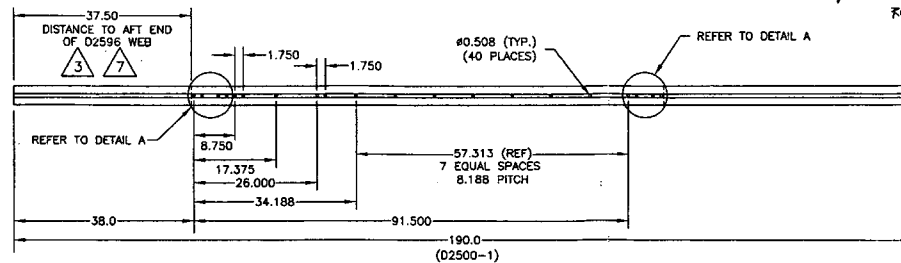
AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO $\phi 0.437$ X 1.00 DEEP

D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

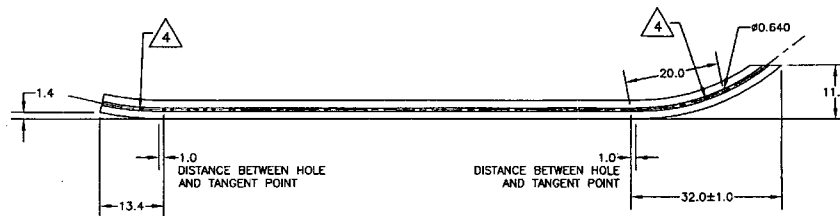
D2580-1 DRILLING DETAIL



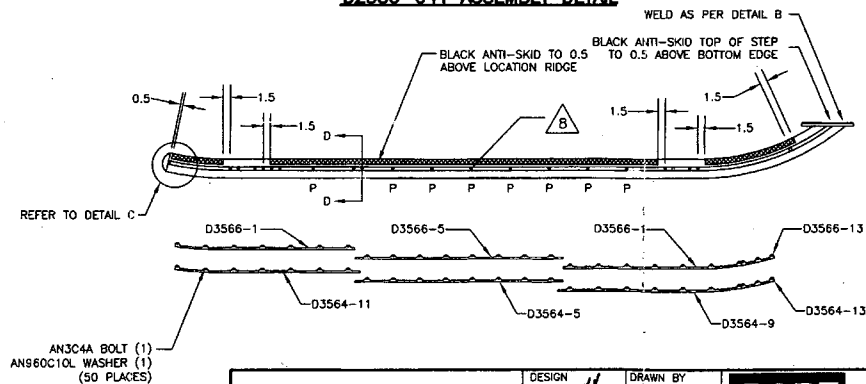
~~UNDER REVIEW~~

RMV 9.06.30

D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



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DESIGN

DATE	11/11/2011
DRAWN BY	11/11/2011

DART

DART AEROSPACE LTD.
HAMPSHIRE, ONTARIO, CANADA

CHECKE

APPROVED/

DRAWING NO.

REV. D

DATE
07.02.27

TITLE	205 SKIDTUBE ASSEMBLY
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SCALE
1:24

11.06.30
RMV 11.06.30

D2580-1 DRILLING DETAIL

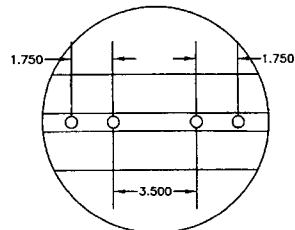


Diagram illustrating the grinding locations for the propeller cross-section. The diagram shows a cross-section of a propeller with the following labeled features:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- GRIND FLUSH

RELEASED
07-06-28

RMV 6P#06.30

Technical drawing of a circular component with the following annotations and dimensions:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Points to two small circles on the left side of the component.
- SEAL WITH SIKAFLEX-241/-291**: Points to the outer edge of the component.
- AN3-SA BOLT (1)**: Points to a bolt on the left side.
- AN960JD10L WASHER (1) (2 PLACES)**: Points to two washers on the left side.
- D2855 CAP**: Points to a cap on the left side.
- SEE NOTE ii)**: Points to a rectangular area on the right side.
- 0.40**: Dimension line at the bottom indicating a width.
- 0.208**: Dimension line at the top indicating a diameter.

Diagram of a circular web assembly with labels:

- D2579 SPACER
- D2596 WEB (REF)
- ALST-1032-130 (REF) (TYP 50 PLACES)

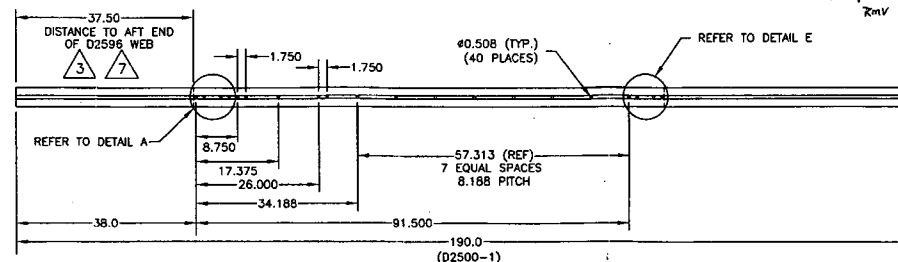
5

AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

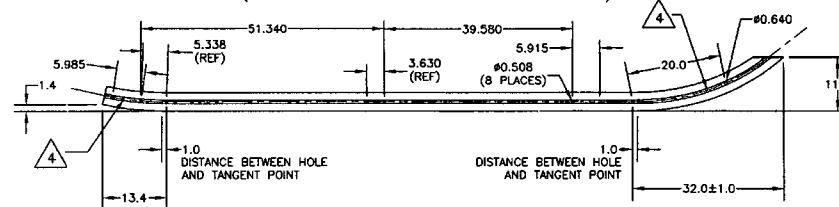
1. CHAMFER HOLE 0.050 x 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO Ø0.437 x 1.00 DEEP

D2580-045 NOTES

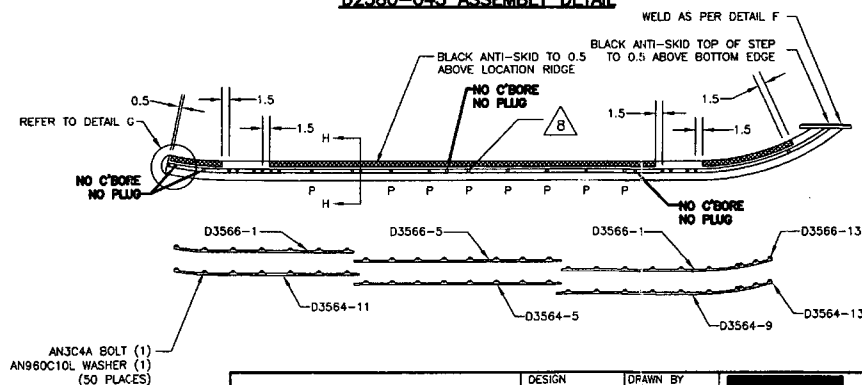
- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI C05 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION




D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



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	CHECKED	APPROVED		
	DATE	TITLE		SCALE
07.02.27	205 SKIDTUBE ASSEMBLY		1:2	